1. GRAZHDANSKIY, S.A., YEVARSON,A.M., BUSH, L.P., Engs.

2. USSR (600)

4. Kilns, Rotary

7. Reconstruction of a rotary kiln. TSement No. 6 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

1. RUSH, L. P.
2. USSR (600)
4. Cutting Machines
7. Conveyer-cutting machine for asbestos-slate products, Tsement 19 No. 1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

1. RUSH, L.P.

2. USSR (600)

4. Air Filters

7. Device for fastening bags to the sleeves of bag filters, TSement 19 no. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953. Unclassified.

BUSH, L.P., inzhener.

Correct design for cement plant centrifugal exhaust fans. TSement no.4:24-25 Jl-Ag '53. (MLRA 6:8)

1. Brotsenskiy tsementnyy zavod. (Fans, Mechanical)

BUSH, L.P., inzhener.

Reconstruction of machinery at the Brotsensk asbestos slate plant.
TSement 19 no.6:26-28 N-D '53. (MLRA 6:12)

1. Brotsenskiy shifernyy zavod.

(Asbestos cement)

BUSH, L. P.

USSR/Engineering - Loading equipment

Card 1/1 **:** Pub. 71 - 15/17

Authors **:** Bush, L. P.

Title **:** An installation for reloading materials

Periodical **:** Mech. trud. rab. 5, page 46, July 1954

Abstract **:** General information concerning the use and operation of an installation for reloading materials is given. Diagrams and drawing depicting the structure and use of the above mentioned installation are presented.

Institution : .....

Submitted : .....

BUSH, L.P.

BUSH, L.P., inzhener.

Clearance indicator of a "hollander." TSement 20 no.4:28-29
Jl-Ag '54. (MLRA 7:9)

1. Brotsenskiy shifernyy zavod.
(Crushing machinery)

BUSH,L.P., inzhener

Loosening overburden. Tsement 21 no.5:27 S-O '55. (MLRA 9:1)

1. Brotsenskiy tsementnyy zavod.
(Quarries and quarrying)

BUSH, L., inzhener (g.Brotseny, Latviyskaya SSR)

Electromagnetic slate handling machine. Stroi. mat., izdel. i
konst. 2 no.2:28 F '56. (MLRA 9:6)
(Roofing, Slate)

BUSH, L.P., inzhener.

Car axle of new design. TSement 22 no.4:26 Jl-Ag '56.
(MLRA 9:10)

1. Brotsenskiy kombinat.
(Car axles)

BUSH, L.P. inzh.

Device for turning cross blades of SM-275 rotary cutters.
Stroi. mat. 6 no.3:31 Mr '60. (MIRA 13:6)
(Roofing, Slate) (Cutting machines)

BUSH, L.P., inzh.

Device for vulcanizing large conveyer belts. Stroi. mat. 6 no.9:24
S '60. (MIRA 13:9)
(Vulcanization) (Conveying machinery)

BUSH, L.P.

Efficient method of roofing with corrugated asbestos cement sheets. Stroi. mat. 10 no.3:35 Mr '64. (MIRA 17:6)

BUSH, L.P., inzh.

Changes in the design of the DMPPI-1200 x 1000 hammer mill.
Stroi. mat. 10 no.10:24 O '64.

(MIRA 18:2)

BUSH, L.P., inzh.

Reconditioning the suction pipes of a rotary dryer. TSement 30 no.1:20 Ja-F '64. (MIRA 17:8)

1. Brotsenskiy tsementno-shifernyy kombinat.

BUSH, L.F., inzh.

Replacing open gear drive with reducing gear. Tsement 30 no.3:19
My-Je '64. (MIRA 17:11)

1. Glavnyy konstruktor Brotsenskogo tsementno-shifernogo kombinata.

BUSH, L.P., inzh.

Increasing the capacity of excavator buckets. TSement 30 no.5:
19 S-O '64. (MIRA 17:12)

1. Brotsenskiy tsementno-shifernyy kombinat.

BUSH, L.P., inzh.

Protection of the Volga-35 refrigerator lining. Tsement 31 no.2:
17 Mr-Ap '65. (MIRA 18:8)

1. Brotsenskiy tsementno-shifernyy kombinat.

BUSH, L.F., inzh.

Machining of parts in glowing state. TSement 31 no.4:20 Jl-Ag
'65. (MIRA 18:8)

1. Brotsenskiy tsementno-shifernyy kombinat.

BUSH, M.

Scientific-technical conference of foresters from the Baltic States and White Russia. Vestis Latv ak no.10:189-190 '60.
(EEAI 10:9:10)

(Baltic States--Forests and forestry)
(White Russia--Forests and forestry)

BUSH, M.K.

Bush, M. "The cultivation of knot-free spruce lumber by means of removing side branches," Izvestiya Akad. nauk Latv. SSR, 1949, No. 4, p. 99-110, (In Latvian, resume in Russian).

SO: U-4392 19 August 53 (Letopis 'Zhurnal 'nykh Statey, No 21,1949)

BUSH, M. K. In Latvian

BUSH, M. K. -- "Growing Knot-Free Pine and Spruce by Elimination of Buds." Acad Sci Latvian SSR, Inst. of Forestry Problems, 1952. In Latvian (Dissertation for the Degree of Candidate of Agricultural Sciences)

SO: Izvestiya Ak. Nauk Latviyskoy SSR, No. 9, Sept., 1955

BUSH, M. ; EGLITE, A.

Afforestation of heather moorland. p. 85.

BIOLOGICHESKAIA NAUKA; SELSKOMU I LESNOMU KHOZIAISTVU. (Latvijas PSR Zinatnu akademija. Biologijas zinatnu nodala) Riga, Latvia, No. 3, 1957.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8,
August 1959.
Uncla.

PUSH, M.

Afforestation of sand dunes. p. 95.

BIOLOGICHESKAIA NAUKA; SELSKOMU I LESNOMU KHOZIAISTVU. (Latvijas PSR Zinatnu akademija. Biologijas zinatnu nodala) Riga, Latvia, No. 3, 1957.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. [illegible],
August 1959.
Uncla.

BUSH, K.

Cultivation of knotless wood. p. 115.

BIOLOGICHESKAIA NAUKA; SELSKOMU I LESNOMU KHOZIAISTVU. (Latvijas PSR Zinatnu akademija. Biologijas zinatnu nodala) Riga, Latvia, No. 3, 1957.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8, August 1959.
Uncla.

BUSH, Voldemar [Buss, Voldemars], slesar', Geroy Sotsialisticheskogo Truda

Innovator's path. Sov.profsoiuzy 18 no.10:13-15 My '62.
(MIRA 15:5)

1. Rizhskiy zavod "VEF" (Gosudarstvennaya elektrotekhnicheskaya fabrika), chlen Latviyskogo respublikanskogo soveta Vsesoyuznogo obshchestva izobretateley i ratsionalizatorov.
(Latvia--Technological innovations)

FILATOVA, N.I.; BUSH, V.A.

Hercynian geosynclinal structures of the Dzungarian Alatau. Geotektonika no.3:49-60 My-Je '65. (MIRA 18:6)

1. Vsesoyuznyy aerogeologicheskiy trest Gosudarstvennogo komiteta SSSR, Moskva.

BUSH, V.A.

Position of the northern boundary of caledonite in southeastern Kazakhstan. Vest.Mosk.un. Ser.4:Geol. 17 no.3:72-78 My-Je '62. (MIRA 15:6)

1. Kafedra istoricheskoy i regional'noy geologii Moskovskogo universiteta.

(Kazakhstan--Caledonite)

BUSH, V.K.; ORLOV, V.A.

Our complaints against factory suppliers. Avtom., telem. i sviaz'
no.3:39 Mr '57. (MLRA 10:4)

1. Elektromekhanik Leningrad Varshavskoy distantsii signalizatsii
i svyazi Oktyabr'skoy dorogi (for Bush).
(Railroads--Equipment and supplies)

L 24512-66 EWT(m)/EWP(j)/T RM

ACC NR: AP6007680 SOURCE CODE: UR/0413/66/000/003/0050/0050

AUTHOR: Pakushin, G. N.; Bush, V. P.; Sandakov, Ye. A.; Gazizov, R.F.; Rashidov, N. F.; Todyshev, Yu. G.; Kireyev, V. G.

ORG: none

14
13
B

TITLE: Elastic container for storing and transporring liquids. Class 33, No. 178459

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1966, 50

TOPIC TAGS: liquid container, portable container, elastic container

ABSTRACT: An Author Certificate has been issued describing a portable elastic container for storing and transporring liquids, which has a detachable fastener for the filling opening. To facilitate cleansing of the internal surface, the detachable fastener is a part of the filling opening which is equipped with clamping strips and a brass-type lock. To prevent the liquid from shifting in the container when it is partly full, there is a tightening belt attached to one of the clamp strips at the bottom of the container. (see Fig. 1). [LD]

2

Card 1/2 UDC: 685.514.32

L 24512-66

ACC NR: AP6007680

1

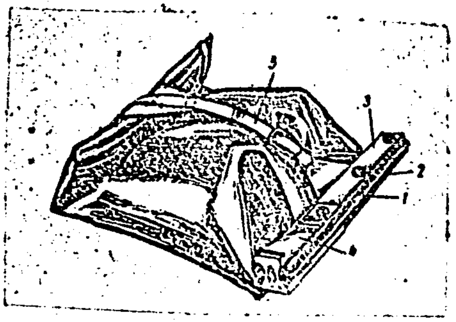

Fig. 1. Elastic containers for storing and transporting liquids. 1 - filling opening; 2 and 3 -- clamping strips; 4 - brass-type lock; 5 - tightening belt.

SUB CODE: 1/3 SUBM DATE: 20Nov64/

Card 2/2 BLG

[illegible] EWT(m)/EW[illegible](d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b) [illegible]

ACCESSION NR: AR500[illegible] S/0137/6[illegible]

[illegible]

AUTHOR: Bush, Ye. V.

TITLE: Welding of thick walled large diameter pipe of type Kh5M steels

CITED SOURCE: Sb. Konstrukts. materialy dlya neft. prom-sti. Vyp. 2. M., Nedra, 1964, 12-15

TOPIC TAGS: welding technology, pipe production, steel welded joint, welding heat treatment, welding rod, steel [illegible] metal mechanical property, steel Kh5M, steel Kh[illegible]

TRANSLATION: Giproneftemash has investigated the welding of [illegible] walled (20-30 mm) pipe of large diameter (1[illegible]-22[illegible] mm) of [illegible] (in %: 0.11 carbon, 4.9 chromium, 0.57 molybdenum) and Kh5VF steel (0.11 carbon, 5.1 chromium, [illegible].7 tungsten, [illegible] vanadium) [illegible] annealed state and in the heat hardened state (after [illegible] tempering). Welding was done with electrodes of [illegible]

Card 1/2

L 33263-65

ACCESSION NR: AR5004779

(welding rod Sv 08Kh19N9) and TsL-9 (welding rod Sv [illegible] electrodes of brand TsL-17 (welding rod 10Kh[illegible]), [illegible] welded [illegible] metal [illegible] and work [illegible] temperatures. [illegible] angle meet the requirements of MN 72-62, Welded Steel [illegible] Equipment. Austenitic electrodes can be used for welding [illegible] of KhMV steel which are designed to operate in [illegible] cause a tendency toward intercrystalline corrosion in the metal of the joints. 3 figures. T. Kislyakova.

SUB CODE: MM ENCL: 00

Card 2/2

L 16133-65 EWT(m)/EWA(d)/EWP(v)/EWP(t)/EWP(k)/EWP(b) -Pf-4 ASD(m)-3
ACCESSION NR: AR4048229 MJW/JD/HM S/0137/64/000/009/E008/E008

SOURCE: Ref. zh. Metallurgiya, Abs. 9E49

AUTHOR: Bush, Ye. V.; Ryakhovskaya, A. P.

TITLE: Development of welding technology for pipes made of heat resistant Kh8VF steel and pipes with cast fittings of Kh8V-L steel

CITED SOURCE: Sb. Konstrukts. materialy* dlya neft. prom-sti. Vy*p. 2. M., Nedra, 1964, 16-22

TOPIC TAGS: welding technology, pipe, welding rod, heat resistant steel, pipe fitting, steel Kh8VF, steel Kh8V-L, welding rod EGL-4

TRANSLATION: The technology of welding pipes of Kh8VF steel has been developed, and the properties of welded pipe joints and combination joints of Kh8VF and Kh8V-L steels has been studied. Pipes made of Kh8VF steel (0.09% C, 8.6% Cr, 0.9% W, 0.4% V) and castings made of Kh8V-L steel (0.18% C, 8.1% Cr, 1.28% W) were used in the work. Electrodes (welding rods) of type EGL-4 (Sv-10Kh5M) were developed for welding pipes made of Kh8VF steel to assure that the chemical

Card 1/2

L 16133-65

ACCESSION NR: AR4048229

0

composition of the metal of the seam would be close to the chemical composition of the metal of the pipes. Conditions were selected for heat treatment of the welded pipe joints of Kh8VF steel to assure a hardness of the welded joints within the range of 180-230 H_B (Brinell hardness) and a ductility a_H meeting the requirements prescribed for welded joints of Cr-Mo steel. It was determined that the welding of combination joints of Kh8VF and Kh8V-L steels with EGL-4 electrodes should be done according to the technology developed for welding pipes of Kh8VF steel. The investigations carried out make it possible to recommend electrodes, a technology for welding pipe made of Kh8VF steel, and a technology for welding cast pieces (fittings) made of Kh8V-L steel to this pipe. 6 figures. 2 tables.

SUB CODE: MM ENCL: 00

Card 2/2

L 32238-65 EWT(m)/EWA(d)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b) Pf-4 MJW/JD/HM

ACCESSION NR: AR5004778 S/0137/64/000/010/E056/E057

SOURCE: Ref. zh. Metallurgiya, Abs. 10E368

AUTHOR: Bush, Ye. V.

TITLE: Welding of thick sheet steel Kh5M and joints of heterogeneous steels Kh5M + steel 3

CITED SOURCE: Sb. Konstrukts. materialy dlya neft. prom-sti. Vyp. 2. M., Nedra, 1964, 78-87

TOPIC TAGS: welding technology, steel welding, heterogeneous steel, heterogeneous weld, joint/ steel Kh5M, steel 3

TRANSLATION: Investigation was made of the welding of sheet steel brand Kh5M (composition in %: 0.08 carbon, 5.0 chromium, 0.55 molybdenum, 0.30 manganese, 0.17 silicon) and welding of joints of this steel and steel 3 (in %: 0.19 carbon, 0.38 manganese, 0.21 silicon) in thicknesses of 20-80 mm. Manual welding of the test joints of steel Kh5M was done with type E-Kh5MF (GOST 9467-60) electrodes, brand TsL-17; automatic welding was done under a layer

Card 1/2

L 32238-65

ACCESSION NR: AR5004778

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of flux with rods type Sv-10Kh5M (GOST 2246-60). Manual and automatic welding of the joints of heterogeneous steels Kh5M and steel 3 was done with electrodes type E 42, E42-A (GOST 9467-60), and welding rod type Sv 08. Welding was done without preheating and with preliminary general or local preheating up to 350-400°; heat treatment and tempering were at a temperature of 760°. It was shown that use of thick sheet steel Kh5M in welded structures involves technical difficulties: it requires preheating and heat treatment of tack welds as well as of welded seams immediately after welding is finished. It was shown that tempering of welded joints of steels Kh5M and steel 3 made with low carbon electrodes, as well as prolonged preheating at temperatures of 450-500°, lead to structural nonhomogeneity along the line of fusion with steel Kh5M; the structural nonhomogeniety does not affect the short term strength at normal and high temperatures, the bending angle, or the long term strength of joints of heterogeneous Kh5M steel and steel 3. 5 figures, 6 tables, 8 literature titles. T. Kislyakova.

SUB CODE: MM ENCL: 00

Card 2/2

BUSHAN, M.G.

Treatment of a lowering bite with a dental prosthesis. Zdravookhranenie 5 no.5:11-13 S-O'62. (MIRA 16:7)

1. Iz kafedry ortopedicheskoy stomatologii Kishinevskogo meditsinskogo instituta (rektor - dotsent N.A.Testemitsanu)
(TEETH--DISEASES) (DENTAL PROSTHESIS)

BEREZINSKIY, V.I., inzh.; BUSHANSKAYA, L.I., inzh.

Power plant on the lumber carrier "Pavlin Vinogradov." Sudostroenie 28 no.1:21-29 Ja '62. (MIRA 16:7)

(Marine gas turbines)

BUSHANSKAYA, L.I., inzh.

Results of trials and of the first operational voyage of the gas turbine driven ship "Umbales." Sudostroenie 29 no.9:17-20 S '63.
(MIRA 16:11)

BUSHANSKAYA, L.I., inzh.

Measures for power plant noise reduction on gas turbine powered ships of the type "Pavlin Vinogradov." Sudostroenie 29 no.10: 30-33 O '63. (MIRA 16:12)

VIRIN, L.I.; BUSHINSKAYA, L.M.; DZHAGATSPANYAN, R.V.

Analysis of methallyl chloride by gas-liquid chromatography.
Zav.lab. 29 no.11:1301-1302 '63. (MIRA 16:12)

BUSHANS[redacted]

Hemoglobin content of the blood as a factor indicating the effectiveness of the summer health campaign for preschool children. Pediatriia no.6:22-25 Je '57. (MIRA 10:10)

1. Iz kafedry shkol'noy gigiyeny (zav. - prof. A.Ya.Gutkin) Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
(HEMOGLOBIN) (CAMPING)

BUSHANSKAYA, N. B.: Master Med Sci (diss) -- "Indexes of the effectiveness of summer recuperative measures among pre-school children, and their evaluation". Leningrad, 1958. 17 pp (Min Health RSFSR, Leningrad Sanitary-Hygiene Med Inst), 200 copies (KL, No 2, 1959, 124)

BUSHANSKAYA, N.B.

Effectiveness of summer health measures among preschool children.
Vop.okh. mat. i det. 3 no.5:72-76 S-O '58 (MIRA 11:11)

1. Iz kafedry gigiyeny detey i podrostkov (zav. - prof. A.Ya. Gutkin) Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.

(CHILDREN--CARE AND HYGIENE)

BUSHANSKAYA, N.B.

Effect of summer health measures on the health and physical development of kindergarten pupils in Leningrad and an evaluation of various factors [with summary in English]. Gig. i san. 23 no.7:42-47 Jl '58.
(MIRA 12:1)

1. Iz kafedry gigiyeny detey i podrostkov Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
(CAMPS,
eff. of summer camps on kindergarten child develop.
(Rus))

BUSHANSKAYA, N.B.

Result of a study of the effect of an interrupted school week on fatigue in fourth grade children. Gig. i san. no. 10:27-31 O '60. (MIRA 13:12)

1. Kafedra gigiyeny detey i podrostkov Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
(SCHOOL HYGIENE)

L 10939-67 EWT(d)/EWP(l) IJP(c) BB/GG/GD

ACC NR: AT6022291 SOURCE CODE: UR/0000/66/000/000/0039/0044

39

AUTHOR: Bushara, I. V.; Kobrinskaya, O. Ya.; Muchnik, I. B.

ORG: none

16U

TITLE: An approach to the study of visual image formation processes

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio. 22d, 1966. Sektsiya bioniki. Doklady. Moscow, 1966, 39-44 and pages 123-124

TOPIC TAGS: bionics, model, vision, perception, pattern recognition

ABSTRACT: Although perception is a classic problem of psychology, it has been only recently simulated, particularly in connecton with visual observations. Among the various approaches, the one due to E. M. Braverman (Avtomatika i telemekhanika, 1962, t. 23, No. 3) is connected with the compactness hypothesis. The paper presents a brief outline of this compactness hypothesis, and on the basis of 24 Soviet and foreign references it surveys the advances in this field of simulating visual image perception.

SUB CODE: 06/ SUBM DATE: 08Apr66/ ORIG REF: 011/ OTH REF: 013

Card 1/1 bp

L 53990-65 EWT(m)/EWP(i)/EWP(v)/T/EWP(t)/EWP(k)/EWP(b)/EWA(c) Pf-4
IJP(c) JD/HM/JG

ACCESSION NR: AP5015509

UR/0286/65/000/008/0042/0042
621.791.75

AUTHOR: Rabkin, D. M.; Shteyn, R. O.; Busharin, V. A.; Gushchina, A. V. 29 B

TITLE: Method of fusion welding silver to steel. Class 21, No. 170135 18
27

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 8, 1965, 42

TOPIC TAGS: welding, silver to steel welding 18

ABSTRACT: This author certificate introduces a method of fusion welding silver to steel. To improve the weld quality, either a copper layer is deposited before welding on the steel or a copper-clad steel plate is joined to the steel. 18 [ND]
27 18

ASSOCIATION: none

SUBMITTED: 28Feb64 ENCL: 00 SUB CODE: MM

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4021

Card 1/1

BUSHBEK, G.V.

GORBACHEVA, I.N.; BUSHBEK, G.V.; VARNAKOVA, L.P.; SHULOV, L.M.; PREOBRAZHENSKIY, N.A.

Synthesis of the methyl ether of the racemic alkaloid dauricine. Zhur. ob. khim. 27 no.8:2297-2301 Ag '57. (MLRA 10:9)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii.
(Alkaloids)

BUSHCHIK, T. N.

Dissertation: "Comparative Morphology of Male Diaspinae and the Possibility of Using It in the Classification of Groups." Cand Biol Sci, Inst of Zoology, Acad Sci USSR, Moscow, Oct-Dec 53. (Vestnik Akademii Nauk, Moscow, Jun 54)

SO: SUM 318, 23 Dec 1954

BUSHCHIK, T.N.

Comparative morphology of male scale insects (Homoptera, Coccoidea, Diaspididae). Trudy Vses. ent. ob-va 46:162-269 '58. (MIRA 11:9)
(Scale insects)

BORKHSENIUS, N.S.; BUSHCHIK, T.N.

Materials on the scale insects of China. Pt.5: A new genus and species of scale insects of the family Phoenicococcidae (Homoptera, Coccoidea) from Szechwan Province; scientific results of Chinese-Soviet expeditions to southwestern China in 1955-1957. Ent.oboz. 38 no.1:160-163 '59. (MIRA 12:4)

1. Zoologicheskiy institut AN SSSR, Leningrad.
(Szechwan Province--Scale insects)

BUSHCHIK, T.N.

Coccid fauna (Homoptera, Coccoidea) of the western Kopet Dagh. Trudy Zool. inst. 27:167-182 '60. (MIRA 13:9)

1. Zoologicheskiy institut Akademii nauk SSSR, Leningrad.
(Kopet Dagh—Scale insects)

BUSHCHIK, T.N.

Experiment in raising the lac insect Laccifera lacca Kerr (Coccoidea, Lacciferidae) in the greenhouses of Leningrad. Ent.oboz.39 no.4:834-837
(MIRA 14:3)

1. Zoologicheskiy institut AN SSSR, Leningrad.
(Lac insects—Host plants)

TSITSIN, N.V., akademik; CHERKASSKIY, Ye.S., prof.; BUSHCHIK, T.N., kand.
biolog.nauk; SHMAL'KO, V.F., kand.sel'skokhoz.nauk;
LYADOVA, G.L., agronom; KILIMNIK, Ye.Ye., agronom;
BELYAYEVA, A.S., agronom

Preparation for controlling the cabbage maggot. Zashch. rast. ot vred. i bol. 7 no.7:33-34 Jl '62. (MIRA 15:11)

1. Glavnyy botanicheskiy sad AN SSSR. Oporno-pokazatel'nyy sovkhoz imeni Mossoveta-i Sovkhoz imeni Gor'kogo.
(Moscow Province--Cabbage maggot--Extermination)
(Insecticides)

S/020/62/144/002/028/028
B144/B101

AUTHORS: Tsitsin, N. V., Academician, Cherkasskiy, Ye. S., Bushchik, T. N., Shmal'ko, V. F., Lyadova, G. L., Kilimnik, Ye. Ye., and Belyayeva, A. S.

TITLE: Latest about the struggle against cabbage maggots (Chortophila brassicae Bouché and Ch. floralis Fall.)

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 2, 1962, 457 - 460

TEXT: A cheap insectofungicidal repellent dust ИФРД (IFRD) was prepared from by-products of the production of activated creolin (AC) and hexachloro cyclohexane (HCCH) by mixing with peat or other fillers. In 1960 excellent results were obtained in small-scale tests by dusting cauliflower, with 10-12 g of coarse-grained peat creolin dust per plant (AC - peat mixture of 1 : 3). Oviposition before the test, damage to roots and number of maggots during the crop were observed. One treatment was sufficient for initial oviposition (single eggs on 4-8 % of the plants); two dustings were applied at 14-day interval with massive oviposition (on 74.7 % of the plants). A finer-grained preparation was used in 1961,
Card 1/3

S/020/62/144/002/028/028
B144/B101

Latest about the struggle against ....

which reduced considerably the consumption. Treatment with IFRD was carried out as follows by: immersing the root before planting in 0.5, 1, and 2 % suspensions for 1-3 min; putting into peat humus pots (250, 300, 350, and 500 g per 10 kg of peat mixture); placing in the planting holes (10, 20, 50 g per hole); sprinkling the root with 50 cm^3 of 3, 5, and 10 % suspension; dusting the collum (1-6 g). The latter method was the most efficient. Similar results were obtained by sprinkling with 50 cm^3 of 10 % IFRD suspension, a method requiring no additional work. Considerable yield increases (2-24 tons per ha) were attained for several varieties of cauliflower and head cabbage (no. 1, Chinese, and 'Slava' cabbage) by one or two dustings with 3-6 g of IFRD after initial or massive oviposition, respectively, and by abundant, additional sprinkling to guarantee a fast penetration of the liquid. Plant and fruit were not unfavorably affected. IFRD residues in the cabbage were not found by the Sanitarno-epidemiologicheskoy stantsiya Moskvy (Moscow Sanitation Epidemiological Station). IFRD is harmless to workers, and not inferior in efficiency to expensive organochlorine compounds. There are 2 tables.

Card 2/3

S/020/62/144/002/028/028
B144/B101

Latest about the struggle against ...

ASSOCIATION: Glavnyy botanicheskiy sad Akademii nauk SSSR (Main Botanical Garden Academy of Sciences USSR); Opytno-pokazatel'nyy sovkhoz im. Mossoveta (Experimental and Model Sovkhoz imeni Mossovet); Sovkhoz im. A. M. Gor'kogo (Sovkhoz imeni A. M. Gor'kiy)

SUBMITTED: February 9, 1962

Card 3/3

TSITSIN, N.V., akademik; CHERKASSKIY, Ye.S.; BUSHCHIK, T.N.; SHMAL'KO, V.F.;
LYUDOVA, G.L.; KILIMNIK, Ye.Ye.; BELYAYEVA, A.S.; Prinimali
uchastiye: AZIYASHVILI, L.N.; ANTONOVA, I.I.; VOLKOVA, A.A.;
DOBROCHINSKAYA, I.B.; MIROSHNICHENKO, O.N.; YUZHAKOVA, N.P.

New data on the control of cabbage flies (Chortophila brassicae Bouché and Chortophila floralis Fall.). Dokl.AN SSSR 144 no.2:457-460 My '62. (MIRA 15:5)

1. Glavnyy botanicheskiy sad AN SSSR, Opytno-pokazatel'nyy sovkhoz im. Mossoveta i Sovkhoz im. A.M.Gor'kogo.
(Cabbage—Diseases and pests)

BUSHCHIK, T.N.; SAAKYAN-BARANOVA, A.A.

Males of the soft scale Coccus hesperidum L. (Homoptera, Coccoidea). Ent. oboz. 41 no.2:334-349 '62. (MIRA 15:11)

1. Zoologicheskiy institut AN SSSR, Leningrad.
(Scale insects)

BUSHE, N. A.

Babbitt Metal

Fatigue strength of babbit in bearings of transportation diesels. Vest. mash. 33, No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

BUSHE, N. A.

6867. Bushe, N. A. i Narskikh, I. I. Uluchsheniye raboty podshipnikov dvigateley teplovozov. M., Transzheldorizdat, 1954. 20s. s ill. 21 sm. (Vsesoyuz. Nauch. - issled. in-t sh.-d. transporta. Inform. Pis'mo. No. 323). 1.000 ekz. Bespl. -- Na obl. avt. ne ukazany. -- (55-149zh)
621.431.72-233.2

SO: Knizhnaya Letopis' No. 6, 1955

BUSHE, N.A.

The influence of the chemical composition of calcium babbitts on the operational properties of bearings of railroad cars. N. A. Bushe. *Issledovanie Splavov Tsvetnykh Metallov*, [illegible] S.S.S.R. Inst. Met. 1, 85-97(1955).—Ordinary Babbitt alloys were prepd. with various amts. of Ca and in some of them the Ca was replaced by Na. [illegible] various properties were measured and the following conclusions were drawn. If the Ca and Na amts. are increased, the hardness increases and also the resistance to plastic deformation. This explains the fact that the Babbitt metal is not so easily squeezed out of the bearing under the action of the axle pressure. Ca has a greater influence on the hardness than Na, but Na imparts a better resistance to cracking, especially if there is more than [illegible] present. The best alloy seems to be one which has 0.876% Ca and 0.705% Na.

Werner Jacobson

BUSHE, Nikolay Aleksandrovich, kandidat tekhnicheskikh nauk; VOSKRESENSKIY, N.N., inzhener, redaktor; KHITROV, P.A., tekhnicheskiy redaktor.

[Investigation of antifriction alloys for railroad car bearings] Issledovaniia antifriktsionnykh splavov podshipnikov podvizhnogo sostava. Moskva, Gos. transportnoe zhel-dor. izd-vo, 1956, 175 p. (Moscow. Vsesoiuznyi nauchno-issledovatel'skii institut zheleznodorozhnogo transporta. Trudy, no.112). (MLRA 9:7)
(Bearings (Machinery))

BUSHE, N.A., kandidat tekhnicheskikh nauk; DVOSKINA, V.A., inzhener.

Effect of various antifriction alloys on semiliquid friction.
Vest. TSNII MPS 16 no.4:57-58 Je '57. (MIRA 10:8)
(Bearings (Machinery))

Bushe, N.A.

13596 [illegible] Possibility of [illegible]

BUSHE, N.A.

D'YACHKOV, A.K., doktor tekhnicheskikh nauk, professor; BUSHE, N.A., kandidat tekhnicheskikh nauk; BEGIDZHANOVA, A.P., kandidat tekhnicheskikh nauk; ABRAMOV, P.G., inzhener; DVOSKINA, V.A., inzhener; LUK'YANCHIKOV, I.K., inzhener.

"Antifriction alloys" by A.I. Shpagin. Reviewed by A.K. D'iachkov and others. Vest. mash. 37 no.7:89-91 Jl '57. (MLRA 10:8)
(Alloys) (Shpagin, A.I.)

ABRAMOV, P.G.; BUSHE, N.A.; ZADNEPROVSKIY, A.Ya.

The TSAM9-1,5 zinc-aluminum alloys used for lining bearings and making linings. Biul.tekh.-ekon.inform. no.6:33-35 '58.
(MIRA 11:8)

(Bearing metals)

BUSHE, N.A., kand.tekhn.nauk; D'YACHKOV, A.K., prof., doktor tekhn.nauk

Range of efficient utilization of various types of bearing alloys.
Trudy TSNII MPS no.157:4-15 '58. (MIRA 11:11)
(Bearing metals)

SOV/137-59-2-3914

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 2, p 229 (USSR)

AUTHORS: Dvoskina, V. A., Bushe, N. A.

TITLE: Selection of an Optimal Composition for a Zinc Alloy (Vybor optimal'nogo sostava tsinkovogo splava)

PERIODICAL: Tr. Vses. n.-i. in-ta zh.-d. transp., 1958, Nr 157, pp 16-37

ABSTRACT: The properties of bearing-type Zn-alloys of the TsAM 4-1, TsAM 10-5, and TsAM 9-1.5 grades were investigated. In order to improve the performance characteristics of the TsAM 9-1.5 alloy, additional research was carried out to improve the chemical composition of the alloy as well as the design of components made of this alloy. Two groups of Zn-alloys containing 7% and 11% of Al were selected, the concentration of Cu and Mg amounting to 1.25-3% and 0.03-0.06%, respectively. The following was established as a result of statistical processing of test data on the mechanical and antifriction properties of the above alloys: 1) Increasing the concentration of Al from 7% to 11% increases the contraction and the σ_s value under compression, as well as the values of σ_b and a_k; 2) increasing the Cu content from 1.25 to 3% lowers the plasticity and

Card 1/2

SOV/137-59-2-3914

Selection of an Optimal Composition for a Zinc Alloy

the value of a_k; 3) increasing the Mg content from 0.03 to 0.06% has no perceptible effect on the properties of the alloys investigated; 4) both groups of alloys exhibit practically identical antifriction properties. It is recommended that in the course of manufacture of alloys of the type TsAM 9-1.5 the Al concentration be maintained near the upper limit specified by the GOST 7177-54 (11%) standard.

E. K.

Card 2/2

BUSHE, N.A., kand.tekhn.nauk; ABRAMOV, P.G., inzh.

Fatigue strength of zinc alloys. Trudy TSNII MPS no.157:38-52 '58. (MIRA 11:11)

(Zinc alloys--Fatigue)

SOV/137-59-2-3913

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 2, p 229 (USSR)

AUTHORS: Bushe, N. A., Abramov, P. G., Dvoskina, V. A.

TITLE: Mechanical Properties of the Zn-alloy TsAM 9-1.5 in the Cast, Rolled, and Extruded States (Mekhanicheskiye svoystva Zn-splava TsAM 9-1,5 v litom, prokatnom i pressovannom sostoyanii)

PERIODICAL: Tr. Vses. n.-i. in-ta zh.-d. transp., 1958, Nr 157, pp 53-61

ABSTRACT: The mechanical properties of the TsAM 9-1.5 alloy (A) in the cast state were tested at temperatures ranging from 0 to 250°C under conditions of tension, impact, and flexure. The results of the experiments show that at temperatures above 50° the strength characteristics of the A are sharply reduced, whereas the plasticity is improved. A high degree of plasticity is acquired by the A at temperatures above 200°. A sharp drop in the a_k values was noted at temperatures in excess of 225°. The properties of the A in the extruded, rolled, and annealed states were compared. Rolled specimens exhibited almost identical properties in longitudinal and lateral directions. Compared with the rolled variety, extruded rods exhibited considerably greater strength and plasticity. Annealing of extruded A's reduces the values

Card 1/2

SOV/137-59-2-3913

Mechanical Properties of the Zn-alloy TsAM 9-1.5 in the Cast, Rolled, and (cont.)

of σ_b and σ_s. Abrasion tests without lubricants were carried out on a machine of the MI type. Methods of fabrication (rolling or extrusion) do not influence the antifrictional properties or the wear resistance of the A.

A. P.

Card 2/2

SOV/137-59-2-3916

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 2, p 229 (USSR)

AUTHORS: Abramov, P.G., Bushe, N. A.

TITLE: Laminated Components With a Zn-alloy Coating (Bimetallicheskiye detali so sloyem tsinkovogo splava)

PERIODICAL: Tr. Vses. n.-i. in-ta zh.-d. transp., 1958, Nr 157, pp 62-69

ABSTRACT: A technology was developed for the manufacture of laminated components reinforced with the Zn-alloy TsAM 9-1.5. Steel components are coated with Zn with an addition of 0.2-0.3% Al in a hot-dip process and are then lined with a Zn alloy. In the course of shear-testing, the "steel/TsAM 9-1.5 alloy" couple exhibited greater shearing strength than the "steel/bronze OTsS 5-5-5" couple. The new technology was applied to the manufacture of crosshead bearings, bush bearings, and three-layer floating bushings. Components thus prepared exhibited good performance characteristics.

A. P.

Card 1/1

SOV/137-59-2-3915

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 2, p 229 (USSR)

AUTHORS: Abramov, P. G., Bushe, N. A.

TITLE: Operational Performance of Components Made of Zn-alloys (Opyt ekspluatatsii detaley, izgotovlennykh iz tsinkovykh splavov)

PERIODICAL: Tr. Vses. n-i. in-ta zh.-d. transp., 1958, Nr 157, pp 70-83

ABSTRACT: Bearing components made of alloys TsAM 4-1 and TsAM 10-5 exhibited frequent premature failure. Therefore, performance tests were carried out on locomotive components made of a stronger alloy, the TsAM 9-1.5. Rimless, three-layer, floating bushings reinforced with this alloy are recommended for extensive use.

A. P.

Card 1/1

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67412
SOV/123-59-12-45994

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 12, p 18 (USSR)

AUTHOR: Bushe, N.A.

TITLE: An Evaluation of Aluminum Bearing Alloys 27

PERIODICAL: Tr. Vses. n.-i. in-ta zh.-d. transp., 1958, Nr 157, pp 84-154

ABSTRACT: The chemical composition, mechanical characteristics, field of application and resistance to wear of Al-bearing alloys in comparison to babbitt are stated. According to the characteristical behavior of the alloys under friction, the author divides them into 2 big groups: alloys, the structure of which possesses hard components the chemical compounds $FeAl_3$, Al_3Ni, $CuAl_2$, Mg_2Si, AlSb and others, and alloys, the structure of which contains, besides hard phases, the soft components Sn and Pb. The application of Al-alloys for bearings of loaded motors showed their increased strength, good heat conductivity and corrosion resistance. The main deficiency of these alloys is the increased wear of the steel friction surface in contact, which is explained by the ability of these alloys to seize the metal of the journal if lubrication is insufficient. The effect of Sn (up to 12%) on the capacity to resist seizure was determined. Under friction, Sn forms on the

Card 1/2

4

67412
SOV/123-59-12-45994

An Evaluation of Aluminum Bearing Alloys

surface in contact, a fine protective film which prevents seizure and, in this way, reduces the wear of the friction pairs. The effect of Sn (0 - 12%) and Si (0 - 5%), taken separately and together, on the mechanical and anti-friction properties of the alloys was investigated. Si exerts a positive effect on the compressive and tensile strength characteristics, reduces the magnitude of plastic deformation and resilience of the alloys, but increases the wear of the friction pairs. Sn exerts less effect on the modification of mechanical properties, decreases resilience, but increases the antifriction properties considerably. The peculiarities of design, operation and repair of bearings from Al-alloys are investigated, which, unlike babbitt bearings, break the continuity of the oil layer at lower temperatures. As a result of the investigations carried out, the optimum contents of main components in Al-alloys were established, and an alloy composition suggested which is to be tested under operating conditions. The suggested A9-2 alloy contains: 8 - 10% Sn, 2.0 - 2.5% Si, 2.0 - 2.5% Cu, 0.8 - 1% Ni, the rest is Al.

P.P.A. 4

BUSHE, N.A., kand.tekhn.nauk; NARSKIKH, I.I., kand.tekhn.nauk

[redacted]

Experience in using BK2 lead babbitt metal in thin-layered engine bearings. Trudy TSNII MPS no.157:167-171 '58. (MIRA 11:11)

(Babbitt metal) (Bearings (Machinery))

SOV/170-59-4-6/20

18(4)

AUTHORS: Bushe, N.A., Dvoskina, V.A., Toropchinov, A.N.

TITLE: The Role of Soft Structural Components in Antifriction Alloys (Rol' myagkikh strukturnykh sostavlyayushchikh v antifriktsionnykh splavakh)

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1959, Nr 4, pp 38-46 (USSR)

ABSTRACT: Aluminum alloys coming now into wide use contain some soft metals such as lead, tin or cadmium, as structural components. It was noticed that antifrictional properties of these alloys considerably depended upon the percentage of the soft structural components. A.A. Bochvar [Ref 2] on the one hand and R.P. Bouden and D. Teybor [Ref 3] on the other hand explained in different ways the manner in which the positive effect of this soft component comes into being. In order to elucidate the problem the TsNII MPS carried out investigations of tin-containing aluminum alloys with a friction machine of the MI-type. Conditions of experiments were the following: semi-liquid friction was brought about by using diesel oil of the D-11 type heated to 100°C; specific pressure was 75 kg/cm^2; the speed of shaft revolution was 450 rpm; material of the journal was axle

Card 1/2

BUSHE, N.A., kand.tekhn.nauk

Utilization of rare metals in railroad transportation. Vest.
TSNII MPS 19 no.1:52-54 '60. (MIRA 13:4)
(Metals, Rare and minor) (Railroads)

BUSHE, N.A.

Potentialities for saving nonferrous metals in railroad transportation. Zhel.dor.transp. 42 no.3:22-28 Mr '60.
(MIRA 13:6)

1. Rukovoditel' laboratorii tsvetnykh metallov Vsesoyuznogo nauchno-issledovatel'skogo instituta zheleznodorozhnogo transporta.
(Nonferrous metals)
(Railroads--Equipment and supplies)

BUSHE, N. A.

PHASE I BOOK EXPLOITATION SOV/5053

Vsesoyuznaya konferentsiya po treniyu i iznosu v mashinakh. 3d, 1958.

Iznos i iznosostoykost'. Antifriktsionnyye materialy (Wear and Wear Resistance. Antifriction Materials) Moscow, Izd-vo AN SSSR, 1960. 273 p. Errata slip inserted. 3,500 copies printed. (Series: Its: Trudy, v. 1)

Sponsoring Agency: Akademiya nauk SSSR. Institut mashinovedeniya.

Resp. Ed.: M. M. Khrushchov, Professor; Eds. of Publishing House: M. Ya. Klebanov, and S. L. Orpik; Tech. Ed.: T. V. Polyakova.

PURPOSE: This collection of articles is intended for practicing engineers and research scientists.

COVERAGE: The collection, published by the Institut mashinovedeniya, AN SSSR (Institute of Science of Machines, Academy of Sciences USSR) contains papers presented at the III Vsesoyuznaya Konferentsiya po treniyu i iznosu v mashinakh (Third All-Union Conference on Friction and Wear in Machines) which was held April 9-15, 1958. Problems discussed were in 5 main areas: 1) Hydrodynamic Theory of Lubrication and Friction Bearings (Chairmen: Ye. M. Gut'yar, Doctor of Technical Sciences, and A. K. D'yachkov, Doctor of Technical Sciences); 2) Lubrication and Lubricant Materials (Chairman: G. V. Vinogradov, Doctor of Chemical Sciences); 3) Dry and Boundary Friction (Chairmen: B. V. Deryagin, Corresponding Member of the Academy of Sciences USSR, and I. V. Kragel'skiy, Doctor of Technical Sciences); 4) Wear and Wear Resistance (Chairman: M. M. Krushchov, Doctor of Technical Sciences); and 5) Friction and Antifriction Materials (Chairmen: I. V. Kragel'skiy, Doctor of Technical Sciences, and M. M. Krushchov, Doctor of Technical Sciences). Chairman of the general assembly (on the first and last day of the conference) was Academician A. A. Blagonravov. L. Yu. Pruzhanskiy, Candidate of Technical Sciences, was scientific secretary. The transactions of the conference were published in 3 volumes, of which the present volume is the first. This volume contains articles concerning the wear and wear resistance of antifriction materials. Among the topics covered are: modern developments in the theory and experimental science of wear resistance of materials, specific data on the wear resistance of various combinations of materials, methods for increasing the wear resistance of certain materials, the effects of friction and wear on the structure of materials, the mechanism of the seizing of metals, the effect of various types of lubricating materials on seizing, abrasive wear of a wide variety of materials and components under many different conditions, modern developments in antifriction materials, and the effects of finish machining on wear resistance. Many personalities are mentioned in the text. Referenced accompany most of the articles.

Lomakin, V. S. Wear Resistance of Enamel Coatings ("Vestn.mashinostr.", No. 2, 1958, under the title "Resistance of Enamel Coatings of Machine Parts") 271

Markhasin, E. L., and V. M. Vinogradov. Increasing the Wear Resistance of Drill Bits ("Vestn.mashinostr.", No. 7, 1959) 271

Matveyevskiy, R. M. Laboratory Investigation of the Abrasive Wear of Steels in the Case of Alternating Rotary Motion ("Vestn.mashinostr.", No. 7, 1959) 271

Chestnov, A. L. Laboratory Investigation of Contact Fatigue of Rolling Surfaces ("Treniye i iznos v mashinakh", sb. XV. Izd. AN SSSR) 271

Bushe, N. A. Causes of Damage to Crankshaft Bearings of Heavily Loaded Diesels ("Vestn.mashinostr.", No. 7, 1959) 271

Card 12/13

6

BUSHE, N.A., kand.tekhn.nauk

Prospects for scientific research on the use of nonferrous metals in railroad transportation. Vest. TSNII MPS 19 no.3:3-7 '60.
(MIRA 13:10)

(Nonferrous metals)
(Railroads—Equipment and supplies)

S/128/62/000/002/003/[illegible]
A004/A127

AUTHORS: Bushe, N.A.; Semenov, M.Ye.

TITLE: Cast steel-aluminum bimetal

PERIODICAL: Liteynoye proizvodstvo, no. 2, 1962, 15 - 16

TEXT: The authors report on investigations being carried out by the TsNII MPS together with other organizations to develop a sufficiently strong aluminum - cast steel compound to be used as bearing bushes of diesel locomotive engines. They refer in this connection to a metallurgical method of producing bimetallic aluminum - steel compounds according to the Alfin process and point out that, to obtain a bond between steel and an aluminum alloy, it is necessary to create conditions ensuring that the oxides on the steel and aluminum surfaces do not obstruct the impregnation of iron by the aluminum. The fluxes used contain mostly NaCl, KCl and NaF in various proportions. Moreover, the soaking of the steel surface covered with different fluxes by the aluminum was investigated. The tests to analyze the suitability of the K_2ZrF_6, K_2NbF_7, K_2TaF_7 and Na_2BeF_4 salts as fluxes proved the superiority of K_2ZrF_6. The flux can be applied to the steel surface either by immersion of the parts in the molten flux or by deposi-

Card 1/3

S/128/62/000/002/003/007
A004/A127

Cast steel-aluminum bimetal

tion of the flux from an aqueous solution. The latter method yielded better results. The authors describe the successive technological operations, which are included in the process of bonding the aluminum alloy to the steel, i.e., degreasing, fluxing, calorizing and pouring of the aluminum bearing alloy on the calorized steel surface. The bonuing of the aluminum bearing alloy to the steel is taking place by the formation of a transitional layer between these two metals. The bonding strength depends on the strength of the transitional diffusion zone between the calorizing alloy and the steel. In this connection, investigations have been carried out to study the effect of various additions to the aluminum on the nature of formation of the transitional zone and the bonding strength. It was found that Ti, Mo, Nb and Ta additions change the acicular shape of the $FeAl_3$ precipitate , while metallographic investigations of specimens calorized in the melt at 730°C showed that Ti, Zr, Nb, Ta and Mo additions of 0.2% each reduce the transitional zone thickness. The minimum transition zone was obtained when 0.2% Ti and 5% Zn were added to the aluminum, and also 9% Sn and 2% Cu to the aluminum alloy during calorizing. The shearing strength of the bimetallic compound amounts to 60 - 80% of the shearing strength of the aluminum bearing alloy. The investigation results proved that the strength of the bimetallic compound was the higher, the smaller the dimensions of the transitional diffusion

Card 2/3

Cast steel-aluminum bimetal

S/128/62/000/002/003/007
A004/A127

zone. There are 5 figures, 1 table and 13 references: 8 Soviet-bloc and 5 non-Soviet-bloc. The references to the four most recent English-language publications read as follows: Mohler Diesel Power, 31, no. 9, 1953; Cooper, A., "Aluminizing of Steel. J. Sci. Ind. Research", 1954; Landin, U.S. Patent No. 2686359, Aug. 17, 1954; Miller, G.L., Zirconium, London, 1954.

Card 3/3

BUSHE, N.A.; DVOSKINA, V.A.; ABRAMOV, P.G.

Evaluating the effect of various factors on the origination of semiliquid friction conditions. Tren.i izn.mash. no.15:152-166 '62. (MIRA 15:4)

(Friction)

BUSHE, N.A., kand.tekhn.nauk; PLENTSOV, G.I., kand.tekhn.nauk.; RODZAYEVSKAYA,
Yu.A., kand.tekhn.nauk; PAVLOVA, R.G., inzh.

Increase in the wear resistance of the contact wire. Trudy TSNII MPS no.233:5-28 '62. (MIRA 15:9)
(Electric railroads--Wires and wiring)

BUSHE, N.A.; LYUBARSKIY, I.M.; VOSKOBOYNIKOV, D.B.; GOL'DSHTEYN, L.Ya.

"Swelling" of lead babbitt. Issl. splav. tsvet. met. no.3: 195-203 '62. (MIRA 15:8)
(Babbitt metal--Metallography) (Gases in metals)

S/806/62/000/003/017/018

AUTHORS: Bushe, N. A., Lyubarskiy, I. M., Voskoboynikov, D. B., Gol'dshteyn, L. Ya.

TITLE: "Bulging" of lead babbitt.

SOURCE: Akademiya nauk SSSR. Institut metallurgii. Issledovaniye splavov tsvetnykh metallov. no.3. 1962, 194-203.

TEXT: The paper describes a recently discovered problem peculiar to the low-tin (appx. 2% Sn) babbitt БК2 (BK2), not observed on any high-tin babbitt, namely, the "bulging" of the babbitt layers in separate points of a bearing. The investigation was conducted by the All-Union Scientific Research Institute of Railroad Transportation and the Diesel-Locomotive Factory imeni Malyshev. Most frequently the babbitt layer exhibits large bulges, up to 20-mm diam, with separation of the babbitt layer from the backing. Fissures visible to the naked eye appear on the surface of the bulges. Some bearing inserts exhibit small pimples of up to 2 mm diam, which are not accompanied by insert / backing separation or the appearance of surface fissures. The bulging was observed on inserts stored in both dry and moist conditions, with a protective lubricant layer and without any lubricant. While the bulges may appear anywhere, the large bulges form preferably on the

Card 1/3

darker oxidized portions of the insert surface. Bulges have not been manifest in **inserts installed on operating engines, neither has any great incidence of insert** failures by fissuration or crumbling of the babbitt layer been reported. Statistical analysis shows that bulging correlates with an increase of ingot babbitt and decrease of scrap babbitt in the smelting charge, also with the change from air cooling to water cooling, which is intended to produce a finer-grain structure. In fact, the composition of BK2 underwent a sharp change in 1957, and is no longer the alloy originally tested in 1949-51. The Ca content has thus changed from 0.06-0.16% to 0.30, the Na from 0.15-0.31 to 0.45%; concurrently the H_B has changed from 15-20 to 25-32. It was found experimentally (near-full-page table) that all inserts suffering from large or small bulges had an excessive amount of Na, namely, in excess of the saturation amount at room T (0.4%). All nondefective stored specimens had Na contents less than 0.4%. The Ca content was not critical. The Mg content in all specimens was below standard (0.04-0.09%). The microstructure of all bulged inserts was the fine-crystalline structure of a rapidly-cooled babbitt. Conclusions: The low-Na alloy used prior to 1957 aged less intensely, the high-Na alloy produced since 1957 ages more intensely, with segregation of a Ca-rich secondary phase (Pb_3Ca, Pb_3Na, and $PbMg_2$) in a finely-dispersed state. Microstructural analysis on aged and over-aged specimens (detail explanation and

"Bulging" of lead babbitt. S/806/62/000/003/017/018

photos shown) revealed sizable distortions along the babbitt-grain boundaries in the presence of a large amount of Na. The dissolved gases trapped in water-cooled cast specimens diffuse along the boundaries and add to the residual stresses, until bulging occurs. The increased oxidation of bulging inserts is an indication that corrosion processes are at work also. All other conditions being equal, bulging occurs preferably in inserts that exhibit casting defects (cavities, etc.) and inadequate insert-to-backing adhesion. Specifications have been established for: (1) Content: 0.06-0.20% Ca, 0.15-0.30% Na, 0.03-0.09 Mg, 1.5-2.5% Sn, the remainder Pb; (2) hardness: H_V 23 after 72 hrs following casting; (3) gas content: Measures have been taken (unspecified) to reduce the freezing rate of the babbitt and reduce the amount of dissolved gases. There are 5 figures, 2 tables, and 7 Russian-language Soviet references.

√

ASSOCIATION: None given.

BUSHE, N.A., kand. tekhn. nauk NARSKIKH, I.I., kand. tekhn. nauk;
BABAYEV, N.K., aspirant; ZAGORYANSKIY, Yu.A., inzh.

Testing of aluminum alloy bearings for diesel locomotive engines.
Vest. TSNII MPS 22 no.7:39-44 '63. (MIRA 16:12)

1. Tashkentskiy institut inzhenerov zheleznodorozhnogo transporta (for Babayev).

BUSHE, N.A., doktor tekhn. nauk; ABRAMOV, P.G., inzh.; DEMIDOVA, I.A., tekhnik

Corrosion cracking of brass products. Vest. TSNII MPS 23 no.4:38-40 '64. (MIRA 17:8)

BUSHE, N.A.

Refrigerating equipment for the chemical industry. Khol.tekh. 41 no.1:3-6 Ja-F '64. (MIRA 17:3)

1. Nachal'nik Upravleniya po razvitiyu kompressornogo, khologil'nogo i kislorodnogo mashinostroyeniya Gosudarstvennogo komiteta khimicheskogo i neftyanogo mashinostroyeniya pri Gosplane SSSR.

ACCESSION NR: AP4044381 S/0122/64/000/008/0040/0044

AUTHOR: Bushe, N. A. (Doctor of technical sciences)

TITLE: Contemporary antifriction aluminum alloys

SOURCE: Vestnik mashinostroyeniya, no. 8, 1964, 40-44

TOPIC TAGS: friction, aluminum, alloy aging, zinc, quenching, cadmium, silicon/ ST.5 steel, MI machine, RRAS 9 alloy, KhA750 alloy, al'kusip alloy, ASM alloy

ABSTRACT: Aluminum alloys used in bearings as antifriction materials were reviewed. The alloys are divided into two groups according to their hardness and structural characteristics. Group one consists of alloys with heterogeneous structure: solid crystals of chemical compound $CuAl_2Al_3Ni$ with pure Si; group two consists of solid crystals plus soft Sn, Cd, and Pb inclusions. Tests on machine MI at the TsNII MPS Institute were carried out under 14 kg/cm^2 loads without lubricant, using various steels and aluminum alloys. In this, as well as other similar tests in Great Britain, the effect of tin present in the aluminum was clearly seen from the sharp reduction of wear. The presence of zinc and cadmium showed similar effects on heavy-duty wear. Some of the characteristics of a babbit-bronze alloy termed "al'kusip", used in the SSSR in bearings and joints, were reviewed. Monometallic

Card 1/2

ACCESSION NR: AP4044381

and bimetallic aluminum alloy bearings were discussed. Rolling was found to be the most economical and least difficult method of manufacturing bimetallic strips, 7 mm thick, with aluminum-tin alloy layers. Such bimetallic alloys used in bearings have been found to be suitable for most heavy-duty work. Orig. art. has: 2 tables.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF SOV: 013

OTHER: 006

Card 2/2

L 65042-65 EWT(m)/EPF(c)/EWA(d)/EWP(t)/EWP(z)/EWP(b)/ETC(m) IJP(c) JD/WW/DJ

ACCESSION NR: AP5023447 UR/0286/64/000/021/0106/0106

AUTHOR: Shpagin, A. I.; Bushe, N. A.; Abramov, P. G.; Larin, T. V.

TITLE: Bearing alloy, Class 40, No. 87135

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 21, 1964, 106

TOPIC TAGS: antifriction bearing, lead base alloy, sodium containing alloy, magnesium containing alloy, tin containing alloy, antimony alloy, calcium alloy

ABSTRACT: A bearing alloy, consisting of lead with added sodium (0.2-0.6%), calcium (0.2-0.7%) and magnesium (0.1% max), is distinguished in that 1.5-2.5% Sn and 0.5% (max) Sb is added to the initial composition.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: MM, IE

NR REF SOV: 000 OTHER: 000 JPRS

1/1